

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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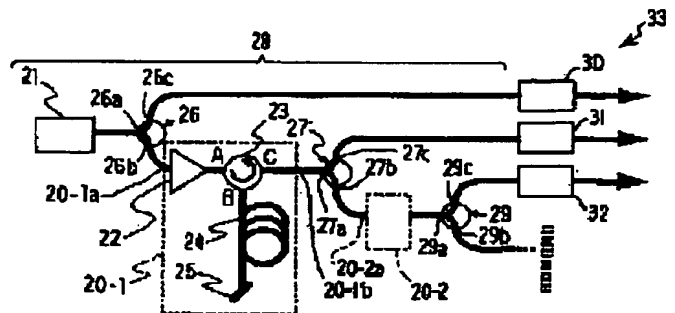
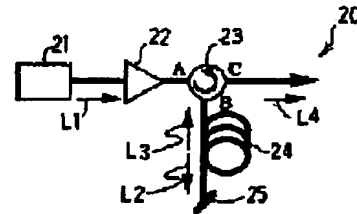
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TITLE : OPTICAL FREQUENCY CONVERTER  
FOR WAVELENGTH MULTIPLEX  
TRANSMISSION AND LIGHT SOURCE  
FOR WAVELENGTH MULTIPLEX  
TRANSMISSION



**ABSTRACT :** PROBLEM TO BE SOLVED: To provide a light source for wavelength multiplex transmission capable of performing an optical frequency conversion with a simple constitution and also capable of generating light signals having plural wavelengths from one light source with a simple constitution.

**SOLUTION:** In an optical optical frequency converter 20, when a light signal of a single mode is inputted to an optical fiber for scattered light generation 24 as an input light L2, since the optical frequency of a stimulated Brillouin scattered light L3 to be generated as a backscattering is shifted from that of the input light L2, an optical frequency conversion can be performed by taking out this scattered light while using an optical circulator 23 and a terminating device 25. Moreover, a light source for wavelength multiplex transmission 28 can generate light signals having plural different wavelengths from one light source 21 by connecting optical frequency converters for wavelength multiplex transmission 20-1, 20-2,... and optical demultiplexers 26, 27, 29,... in multistages.

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